

What Is Claimed Is:

1. A yarn comprised of a pitch precursor material which has been stretch broken from a first filament count and drawn to a second filament count, with the second filament count being less than the first filament count.
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2. The invention in accordance with claim 1 wherein said yarn is twisted after being stretch broken and spun.
- 10 3. The invention in accordance with claim 2 wherein the ratio of the first filament count to the second filament count is between 5 and 20.
4. The invention in accordance with claim 1 wherein said yarn is held with a serving yarn after being stretch broken and spun.
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5. The invention in accordance with claim 4 wherein the ratio of the first filament count to the second filament count is between 5 and 20.
- 20 6. The invention in accordance with claim 1 wherein the ratio of the first filament count to the second filament count is between 5 and 20.
7. The invention in accordance with claim 1 wherein said yarn is woven into a fabric.
- 25 8. The invention in accordance with claim 1 wherein said yarn is stitch bonded into a multiaxial fabric.
9. The invention in accordance with claim 1 wherein said yarn is in layers and mechanically secured together by needle punching into a felt.
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10. The invention in accordance with claim 7 wherein said fabric is subject to heat so as to convert the yarn of pitch precursor material into graphitic yarn.
- 5 11. The invention in accordance with claim 8 wherein said fabric is subject to heat so as to convert the yarn of pitch precursor material into graphitic yarn.
- 10 12. The invention in accordance with claim 9 wherein said felt is subject to heat so as to convert the yarn of pitch precursor material into graphitic fibers.
13. The invention in accordance with claim 10 wherein said fabric is coated with a carbonaceous mixture.
- 15 14. The invention in accordance with claim 11 wherein said fabric is coated with a carbonaceous mixture.
- 20 15. The invention in accordance with claim 12 wherein said felt is coated with a carbonaceous mixture.
16. The invention in accordance with claim 10 wherein said fabric is incorporated in a composite comprising a thermoplastic or thermoset resin.
- 25 17. The invention in accordance with claim 11 wherein said fabric is incorporated in a composite comprising a thermoplastic or thermoset resin.
18. The invention in accordance with claim 12 wherein said felt is incorporated in a composite comprising a thermoplastic or thermoset resin.
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19. A hybrid yarn comprised of pitch precursor fibers and PAN fibers which has been stretch broken from a first filament count to a second filament count, with the second filament count being less than the first filament count.
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20. The invention in accordance with claim 19 wherein said yarn is twisted after being stretch broken and spun.
21. The invention in accordance with claim 19 wherein said yarn is held
- 10 with a serving yarn after being stretch broken and spun.
22. The invention in accordance with claim 19 wherein the ratio of the first filament count to the second filament count to between 5 and 20.
- 15 23. The invention in accordance with claim 19 wherein said yarn is woven into a fabric.
24. The invention in accordance with claim 19 wherein said yarn is stitch bonded into a multiaxial fabric.
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25. The invention in accordance with claim 19 wherein said yarn is in layers and mechanically secured together by needle punching into a felt.
26. The invention in accordance with claim 23 wherein said fabric is
- 25 subject to heat so as to convert the yarn of pitch precursor material into graphitic yarn.
27. The invention in accordance with claim 24 wherein said fabric is
- 30 subject to heat so as to convert the yarn of pitch precursor material into graphitic yarn.

28. The invention in accordance with claim 25 wherein said felt is subject to heat so as to convert the yarn of pitch precursor material into graphitic fibers.

5 29. The invention in accordance with claim 26 wherein said fabric is coated with a carbonaceous mixture.

30. The invention in accordance with claim 27 wherein said fabric is coated with a carbonaceous mixture.

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31. The invention in accordance with claim 28 wherein said felt is coated with a carbonaceous mixture.

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32. The invention in accordance with claim 26 wherein said fabric is incorporated in a composite comprising a thermoplastic or thermoset resin.

33. The invention in accordance with claim 27 wherein said fabric is incorporated in a composite comprising a thermoplastic or thermoset resin.

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34. The invention in accordance with claim 28 wherein said felt is incorporated in a composite comprising a thermoplastic or thermoset resin.

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35. A method of making a graphite fabric comprising the steps of:
providing a pitch precursor yarn of a first filament count;
stretch breaking and drawing said yarn into a second filament count
which is less than the first filament count;
forming said yarn into a fabric or felt; and
heat treating said fabric or felt to convert the fibers into graphitic
fibers.

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36. The method in accordance with claim 35 which includes the step of twisting the yarn after the yarn is stretch broken and spun.

37. The method in accordance with claim 35 which includes the step of
5 providing a serving yarn after the yarn is stretch broken and spun.

38. The method in accordance with claim 35 wherein the ratio of the first filament count to the second filament count is between 5 and 20.

10 39. The method in accordance with claim 35 which includes the step of forming said yarn into a fabric or felt by weaving, stitch bonding or needle punching.

40. The method in accordance with claim 39 which includes the step of
15 coating the fabric or felt with a carbonaceous mixture.

41. The method in accordance with claim 39 which includes the step of incorporating said fabric or felt into a thermoplastic or thermoset resin so as to form a composite.

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42. A method of making a graphite fabric comprising the steps of:
providing hybrid yarn including pitch precursor fibers and PAN
fibers, said hybrid yarn being of a first filament;
stretch breaking and drawing said hybrid yarn into a second filament
25 count which is less than the first filament count;
forming said hybrid yarn into a fabric or felt; and
heat treating said fabric or felt to convert the fibers into graphitic
fibers.

30 43. The method in accordance with claim 43 which includes the step of twisting the hybrid yarn after the hybrid yarn is stretch broken and spun.

44. The method in accordance with claim 43 which includes the step of providing a serving yarn after the hybrid yarn is stretch broken and spun.
- 5 45. The method in accordance with claim 43 wherein the ratio of the first filament count to the second filament count is between 5 and 20.
46. The method in accordance with claim 43 which includes the step of forming said hybrid yarn into a fabric or felt by weaving, stitch bonding or
10 needle punching.
47. The method in accordance with claim 46 which includes the step of coating the fabric or felt with a carbonaceous mixture.
- 15 48. The method in accordance with claim 46 which includes the step of incorporating said fabric or felt into a thermoplastic or thermoset resin so as to form a composite.